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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,825	12/21/2000	Muhammad Chishti	AT-00097	4092

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EXAMINER	
NGUYEN, PHU K	

ART UNIT	PAPER NUMBER
2628	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/745,825	CHISHTI ET AL.	
	Examiner	Art Unit	
	Phu K. Nguyen	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

PHU K. NGUYEN
PRIMARY EXAMINER
GROUP 2300

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/16/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sachdeva et al (U.S. Patent No. 6,315,553) in view of ALCANIZ et al. (An Advanced System for the Simulation and Planning of Orthodontic Treatment).

As per claim 1, Sachdeva teaches the claimed "computer-implemented method for reviewing tooth arrangements," said method comprising: "maintaining a digital data set representing a three-dimensional graphical representation of a patient's teeth in a host computer" (Sachdeva, the site orthodontic system 12); electronically transmitting the digital data set to a viewing computer(Sachdeva, the communication network 16); displaying the three-dimensional graphical representation on the viewing computer to a treating clinician(Sachdeva, the orthodontic server 14); and electronically transmitting data comprising the changes to the graphical representation or comments of the treating clinician from the viewing computer to the host computer (Sachdeva, the communication network 16). It is noted that Sachdeva does not explicitly teach "altering a rendered image by manipulating the image graphically so as to generate changes to the graphical representation" as claimed. However, Alcaniz teaches that in the orthodontic treatment, it is well known in the art to manipulating the teeth graphically to decide the best form of the fitted tooth (Alcaniz, page 71, column 1, lines 9-10, "For

digital setup analysis, it is possible to move teeth either individually or in groups; " figure 15). Thus, given Sachdeva's active apparatus, which provides tooth movement (Sachdeva, column 7, lines 34-43), it would have been obvious to graphically move the teeth to a desired position in the process of orthodontic treatment because the interactive and graphical manipulation of teeth allows the user to envision the final form of the teeth and to predict the steps of orthodontic adjustment (Sachdeva, column 9, lines 46-50; Alcaniz, page 71, column 1, lines 19-34).

Claim 2 adds into claim 1 "the digital data set represents the teeth in a reconfigured arrangement" (Sachdeva, column 9, lines 15-32).

Claim 3 adds into claim 2 "the digital data set represents a final tooth configuration to be achieved by orthodontic treatment" (Sachdeva, col. 14, lines 26-29).

Claim 4 adds into claim 3 "maintaining a second digital data set representing a three-dimensional graphical representation of the patient's teeth in an initial arrangement on the host computer, electronically transmitting the second digital data set to the viewing computer, and displaying the three-dimensional graphical representation of the patient's teeth in the initial arrangement on the viewing computer to the treating clinician" (Sachdeva, column 7, line 44 to column 8, line 44).

Claim 5 adds into claim 4 "the graphical representations of the teeth in the final

and initial configurations are displayed side-by-side on a display of the viewing computer" which would have been obvious because Sachdeva's orthodontic system collects both the initial and final configurations.

Claim 6 adds into claim 1 "the digital data set represents a series of intermediate configurations from an initial tooth configuration to a final arrangement" (Sachdeva, column 7, lines 12-14, 44-56).

Claim 7 adds into claim 6 "the digital data set is displayed as an animated routine" which would have been obvious because Sachdeva's orthodontic system collects all the images of the initial, intermediate and final configurations.

Claim 8 adds into claim 7 "the treating clinician manipulates the animation routine on the viewing computer to step forward or backward through images along a treatment path" which would have been obvious because Sachdeva's orthodontic system collects all the images of the initial, intermediate and final configurations.

Claim 9 adds into claim 1 "the host computer is remote from the viewing computer" (Sachdeva, the site orthodonctic system 12 and the orthodontic server 14).

Claim 10 adds into claim 9 "transmitting data between the host computer and the viewing computer is performed over a direct connection" which would have been obvious in view of Sachdeva's communication network 16 (column 6, lines 6-8).

Claim 11 adds into claim 9 "transmitting data between the host computer and the viewing computer is performed over the world wide web" (Sachdeva, the communication network 16; column 6, lines 1-6).

Claim 12 adds into claim 1 "altering a three-dimensional image displayed on the viewing computer, wherein the altered image may be electronically transmitted to the host computer" (Sachdeva, column 5, lines 11-17; column 14, lines 8-10).

Claim 13 adds into claim 1 "detecting tooth collisions resulting from the altered image and altering the treating clinician" which would have been obvious in Sachdeva's orthodontic monitoring (column 10, lines 26-52).

Claim 14 adds into claim 1 "electronically transmitting comments comprises sending textual messages" (Sachdeva, column 5, lines 47-67).

Claim 15 adds into claim 1 "revising the digital data set on the host computer to incorporate changes suggested by the treating clinician to produce a revised digital data set" (Sachdeva, column 11, lines 46-57; the update of the orthodontic treatment).

Claim 16 adds into claim 15 "electronically transmitting the revised digital data set to the viewing computer, displaying a revised three-dimensional graphical representation on the viewing computer to the treating clinician, and electronically transmitting further changes to the graphical representation or comments of the treating clinician from the viewing computer to the host computer" (Sachdeva, column 14, lines 3-21).

As per claim 17, Sachdeva teaches the claimed "computer-implemented method for reviewing tooth arrangements," said method comprising: "maintaining a digital data set representing a three-dimensional graphical representation of a patient's teeth in a host computer" (Sachdeva, the site orthodontic system 12); "electronically transmitting the digital data set to a viewing computer, the viewing computer comprising instructions operable to cause the computer to display the three-dimensional graphical representation on the viewing computer" (Sachdeva, the orthodontic server 14); and receiving data comprising the changes to the graphical representation, the data electronically transmitted from the viewing computer to the host computer (Sachdeva, the communication network 16). It is noted that Sachdeva does not explicitly teach "alter, at the direction of a human user, a rendered image by manipulating the image graphically so as to generate changes to the graphical representation" as claimed. However, Alcaniz teaches that in the orthodontic treatment, it is well known in the art to manipulating the teeth graphically to decide the best form of the fitted tooth (Alcaniz,

page 71, column 1, lines 9-10, "For digital setup analysis, it is possible to move teeth either individually or in groups; " figure 15). Thus, given Sachdeva's active apparatus, which provides tooth movement (Sachdeva, column 7, lines 34-43), it would have been obvious to graphically move the teeth to a desired position in the process of orthodontic treatment because the interactive and graphical manipulation of teeth allows the user to envision the final form of the teeth and to predict the steps of orthodontic adjustment (Sachdeva, column 9, lines 46-50; Alcaniz, page 71, column 1, lines 19-34).

RESPONSE TO APPLICANT'S ARGUMENT:

Applicant's arguments filed April 16, 2007 have been fully considered but they are moot under the new ground of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu K. Nguyen whose telephone number is (571) 272 7645. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272 7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Phu K. Nguyen
April 20, 2007

PHU K. NGUYEN
PRIMARY EXAMINER
GROUP 2300